Normalization-based neighborhood model for cold start problem in recommendation system

ABSTRACT

Existing approaches for Recommendation Systems (RS) are mainly based on users' past knowledge and the more popular techniques such as the neighborhood models focus on finding similar users in making recommendations. The cold start problem is due to inaccurate recommendations given to new users because of lack of past data related to those users. To deal with such cases where prior information on the new user is not available, this paper proposes a normalization technique to model user involvement for cold start problem or user likings based on the details of items used in the neighborhood models. The proposed normalization technique was evaluated using two datasets namely MovieLens and GroupLens. The results showed that the proposed technique is able to improve the accuracy of the neighborhood model, which in turn increases the accuracy of an RS.